

Name(s) of Risk Team Members: P. Cirnigliaro			Point Value → Parameter ↓		1		2		3		4		5		
Area/Facility Description Title: Collider-Accelerator Area/Facility # (if applicable): Area-Wide FRA 16-05			Occupancy or Use		≤once/year		≤once/month		≤once/week		≤once/shift		>once/shift		
Area/Facility Description: NSRL Area-Wide			Severity		First Aid Only		Medical Treatment		Lost Time		Partial Disability		Death or Permanent Disability		
			Likelihood		Extremely Unlikely		Unlikely		Possible		Probable		Multiple		
Approved by: <i>E. Lessard</i> Date: 3/31/2005 Rev.#: 0										Comments:					
					Reason for Revision (if applicable):										
					Before Additional Controls							After Additional Controls			
Physical Item or Activity		Hazard(s)	Control(s)	Occupancy A	Severity B	Likelihood C	Risk* AxBxC	Control(s) Added to Reduce Risk			Occupancy A	Severity B	Likelihood C	Risk* AxBxC	% Risk Reduction
Radiation		See facility-wide radiation evaluation	See Facility-Wide Radiation Evaluation												
Dispersible Radiation		Personnel exposure	Training, HP coverage, PPE, engineering controls, administrative controls, work planning, postings, RWP	4	1	3	12								
Electrical		See facility-wide electrical evaluation	See Facility-Wide Electrical Evaluation												
Material Handling		See facility-wide material handling evaluation	See Facility-Wide Material Handling Evaluation												
Housekeeping		See facility-wide housekeeping evaluation	See Facility-Wide Housekeeping Evaluation												
Housekeeping		Biological contamination	Lab specific cleaning procedures, PPE, training, hoods, HEPA filters	4	2	2	16								
Fire		See facility-wide fire evaluation	See Facility-Wide Fire Evaluation												
Water		Pressure	Postings, maintenance, PPE, training, work planning, ASSRC review, procedures, Tier 1 inspections, operations by qualified Water Group staff, LOTO	4	3	2	24								
Water		Temperature	Postings, maintenance, PPE, training, work planning, ASSRC review, procedures, Tier 1 inspections, operations by qualified Water Group staff, LOTO	4	3	2	24								
Cryogenic		Pressure	Postings, maintenance, training, work planning, LOTO, ESRC /ASSRC reviews, procedures, PPE, Tier 1 inspection, pressure testing	4	3	2	24								
Cryogenic		Low temperature	Postings, maintenance, training, work planning, LOTO, ESRC /ASSRC reviews, procedures, PPE, Tier 1 inspection	4	3	2	24								

Pressurized gas	Being struck by an object such as flying debris	Postings, PPE, maintenance, training, work planning, ESRC /ASSRC reviews, procedures, interlock systems, Certification/testing of pressure related equipment, Tier 1 inspections, LOTO, C-AD Chief ME reviews, codes and standards usage	4	3	3	36					
Vacuum	Ear damage	Postings, PPE, maintenance, training, work planning, ASSRC/ESRC reviews, procedures, Tier 1 inspections, Chief ME reviews, vacuum windows covered during handling, use of industry standards, design reviews	4	4	2	32					
Vacuum	Being struck by an object such as flying debris	Postings, PPE, maintenance, training, work planning, ASSRC/ESRC reviews, procedures, Tier 1 inspections, Chief ME reviews, vacuum windows covered during handling, , use of industry standards, design reviews	4	4	2	32					
Still for Distilled Water	Contact with temperature – extremes that result in such injuries as burns	Postings, barriers, maintenance, training, work planning, PPE, procedures, Tier 1 inspections, design reviews, ASSRC reviews, LOTO	4	2	2	16					
Lasers	Eye damage	Barriers, interlock systems, postings, training, LSO review, work planning, PPE, procedures, Tier 1 inspections, warning systems	4	2	2	16					
Magnetic Field	Adverse mechanical force exerted on ferromagnetic objects and or to electronic/medical implants.	Barriers, warning systems, postings, training, ASSRC review, work planning, procedures, Tier 1 inspections, magnetic safety reviews, medical exams	4	4	2	32					
Remotely Operated Equipment	Becoming caught in or compressed by equipment	Postings, barriers, guards, maintenance, training, work planning, procedures, Tier 1 inspections, ASSRC / ESRC reviews, LOTO	4	3	2	24					
Chemicals	Personnel exposure	Postings, barriers, PPE, maintenance, training, work planning, procedures, engineering controls, Tier 1 inspections, CMS, MSDS	3	2	2	12					
Chemicals - isoflurane	Personnel exposure	Training, ESH testing, engineering controls, administrative controls, work planning. EMTs, authorized entry only	3	2	2	12					
Cell and tissue manipulation	Being struck against an object, such as sharps	Training, engineering controls, administrative controls, work planning, ESRC and IRB review, spill controls, PPE	3	2	2	12					
Medical waste handling	Being struck against an object, such as sharps	Training, engineering controls, administrative controls, work planning, ESRC and IACUC review, PPE	3	2	2	12					
Animal	Bites and scratches	Training, engineering controls, administrative controls, work planning, ESRC and IAUCC review, PPE	3	1	3	18					
Further Description of Controls Added to Reduce Risk:											
*Risk:	0 to 20	21 to 40	41-60				61 to 80			81 or greater	
	Negligible	Acceptable	Moderate				Substantial			Intolerable	